



# South Mountain Transportation Corridor Study

Citizens Advisory Team  
Technical Report Summary

## Draft Geotechnical Report

### ***Why study geotechnical conditions in the Environmental Impact Statement (EIS)?***

Geologic and geotechnical conditions within the Study Area can influence how a project like the proposed South Mountain Freeway would be designed and ultimately constructed. Some examples are:

- Rock excavation and construction of rock slopes may be required as part of construction of the Eastern Section.
- Both expansive and consolidation-prone soils in the shallow profile may influence the design of sections of the freeway.
- Shallow groundwater may influence the design of elements of the freeway within the Western Section.

### ***What kind of impacts would occur from construction?***

- Existing ground slopes and materials could be altered during construction by excavation or placement of fill.
- Existing rock slopes within the Eastern Section could be altered by excavating slopes within the rock.

### ***How do the alternatives differ in construction-related impacts?***

- Although groundwater levels vary from nine to 134 feet, there appear to be no distinct differences in construction-related impacts for the Western Section action alternatives.
- The Eastern Section alternative may require rock excavation.
- The Eastern Section alternative likely will not encounter shallow groundwater.

### ***What kinds of freeway operational impacts (post-construction) would occur?***

- No operational impacts are expected to occur for the Western Section alternatives.
- No operational impacts are expected to occur for the Eastern Section as rock slopes will be designed using industry accepted guidelines.

### ***How do the alternatives differ in operational-related impacts?***

- There are no differences in operation-related impacts for the Western Section alternatives.
- The Eastern Section alternative will require rock excavation.

### ***What if the project was not constructed?***

- No project specific impacts would be experienced.



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### ***Are there any specific and/or unique impacts from the action alternatives?***

- There are no specific and/or unique impacts from the action alternatives for the Western Section.
- The Eastern Section alternative may require rock excavation and fairly substantial 'cuts' through three ridge lines.

### ***What can be done to reduce or avoid construction-related impacts?***

ADOT will look at a number of ways to avoid, reduce, or otherwise mitigate construction-related impacts. Examples of some of the measures ADOT could undertake are listed below.

- The freeway could be designed to minimize the extent of excavation and fill.
- The Eastern Section alternative could be designed to minimize the extent of rock excavation.

### ***What can be done to reduce geotechnical impacts once the freeway is operating?***

- Develop specific plans for rock slopes, including slope angles, rockfall protection measures and related design features.

Measures will be presented in the Draft EIS and finalized during the final design process after the EIS process is completed.

### ***Are the conclusions presented in this summary final?***

It is quite likely that quantitative findings relative to impacts are subject to change. The reasons for future changes which will be presented to the public during the Draft EIS, Final EIS and Final Design stages are based on the following:

- Refinement in design features through the design process.
- Updated aerial photography as it relates to rapid growth in the Western Section of the Study Area.
- On-going communications with the City of Phoenix regarding measures to minimize harm to South Mountain Park/Preserve.
- On-going communications with GRIC in regards to granting permission to study action alternatives on GRIC lands.
- Potential updates to traffic forecasts as updated regularly by MAG.
- Potential updates with regards to the special 2005 survey to augment the 2000 Census.
- As design progresses, cost estimates for construction, right-of-way acquisition, relocation and mitigation will be updated on a regular basis.

However, even with these factors affecting findings, it is anticipated the affects would be equal among the alternatives and consequently impacts would be comparatively the same. This assumption would be confirmed if and when such changes were to occur.



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***As a member of the Citizens Advisory Team, how can you review the entire technical report?***

The complete technical report is available for review by making an appointment with Mike Bruder or Ralph Ellis at 602-712-7545.